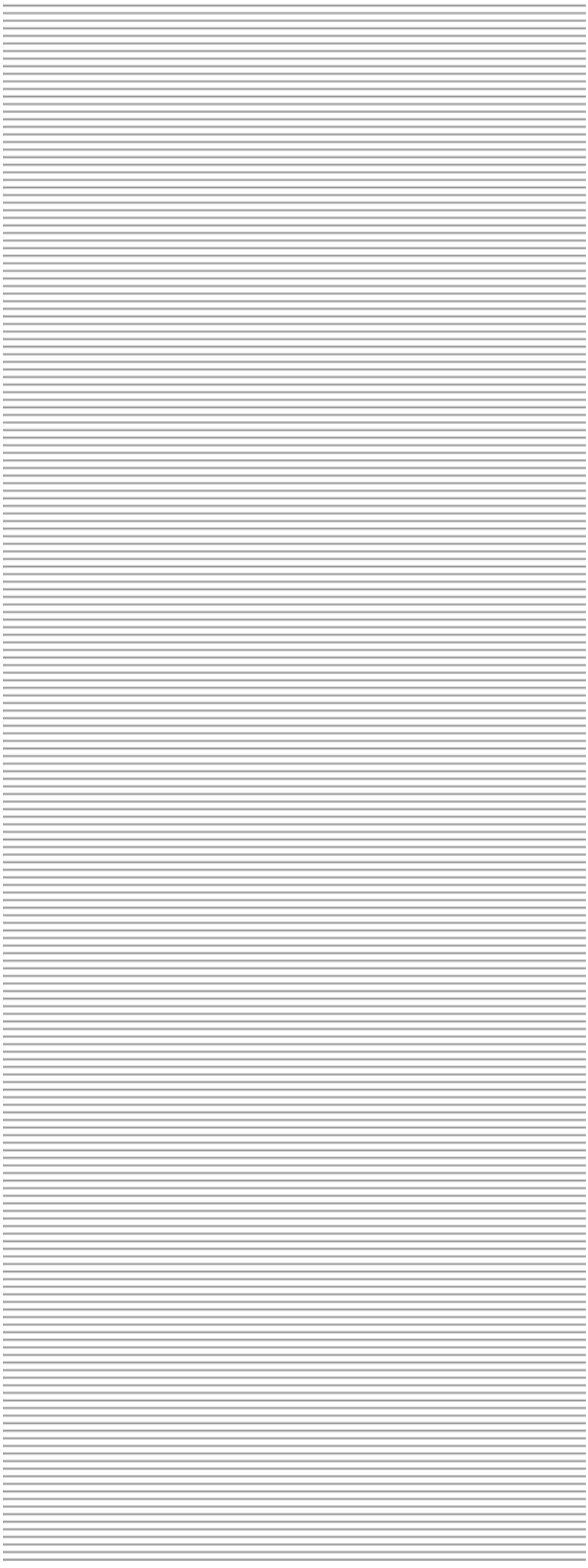


BTL

a guide to laser therapy

gynaecology

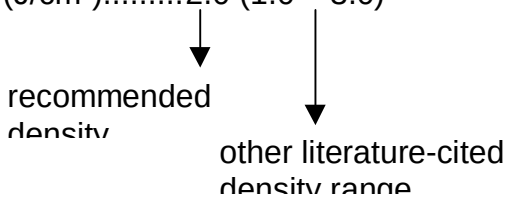
V5.01ENMK2000/03/03

List of Diagnoses

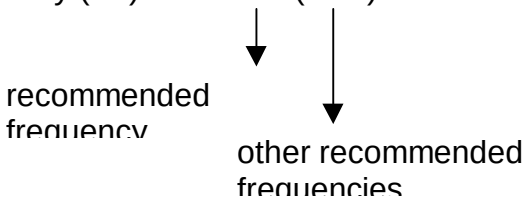
Abscessus glandulae Bartholini
Algomenorrhoea
Cervicitis
Cicatrix cheloidum
Cicatrix recens
Colpitis
Conisatio colli uteri
Cystitis
Dystrophia vulvae
Hematoma
Herpes genitalis
Incontinentia urinae
Parametritis
Pruritus
Sanatio postoperativa
Striae
Urocystis – irritabilis
Vulvitis

Comments:

- Recommended density (J/cm^2).....2.0 (1.0 – 3.0)



- Recommended frequency (Hz).....10.0 (9.12)



- 1st part of therapy
  2nd part of therapy..... refers to therapy consisting of 2 different programs.

- Therapy time at max. output (min.).... therapy time in minutes if maximal output of probe and irradiated area 1cm^2 are set. Considered maximal output of red probe is 30 mW, infrared probe 200 mW.
  Warning! You must adjust the area value according to the size of irradiated area. Change of area will influence therapy time.

This Guide to laser therapy has been written in cooperation with top medical specialists in the field of laser therapy. It has been based on physicians' everyday experience with use of therapy lasers in their practice, as well as on publicly available articles and books on the subject.

General principles of use:

Density

Low density -- up to 1.5 J/cm^2 -- for acute stages.
Higher density -- 1.5 - 4.0 J/cm^2 -- for chronic stages.

Frequency

2.0 - 5.0 Hz -- irritates, stimulates
5.0 -10.0 Hz -- decreases pain, improves tissue nutrition, decreases edema
10 Hz - Bactericid and viricid effects

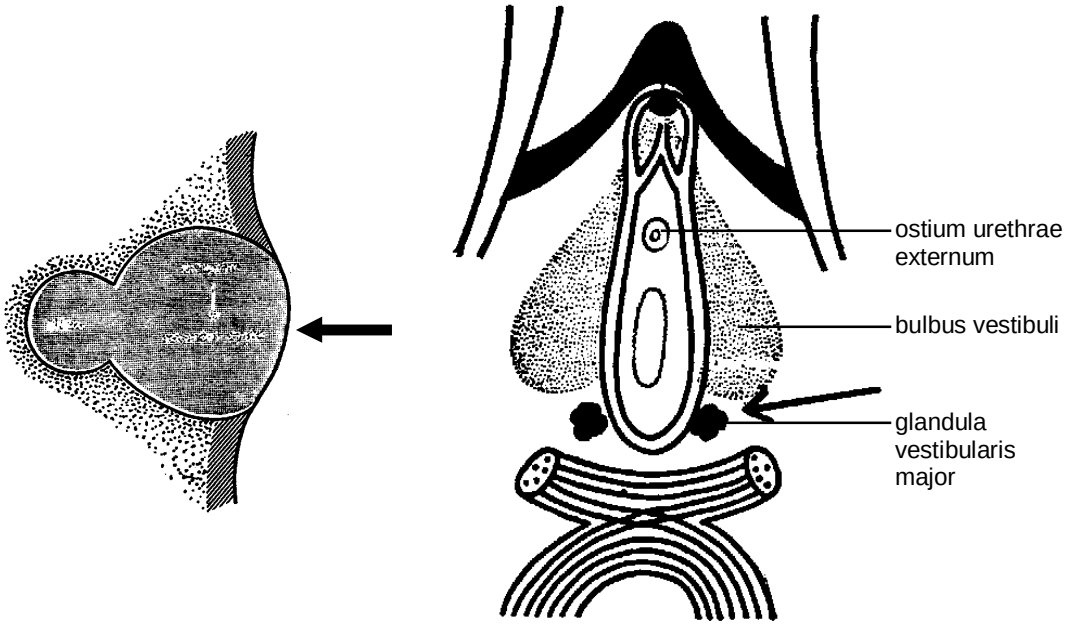
Number of Therapies

Depend on disease, stage of disease and reaction of patient.

Diagnosis: Abscessus glandulae Bartholini

(abscess gland Bartholini)

Programme No: 0500



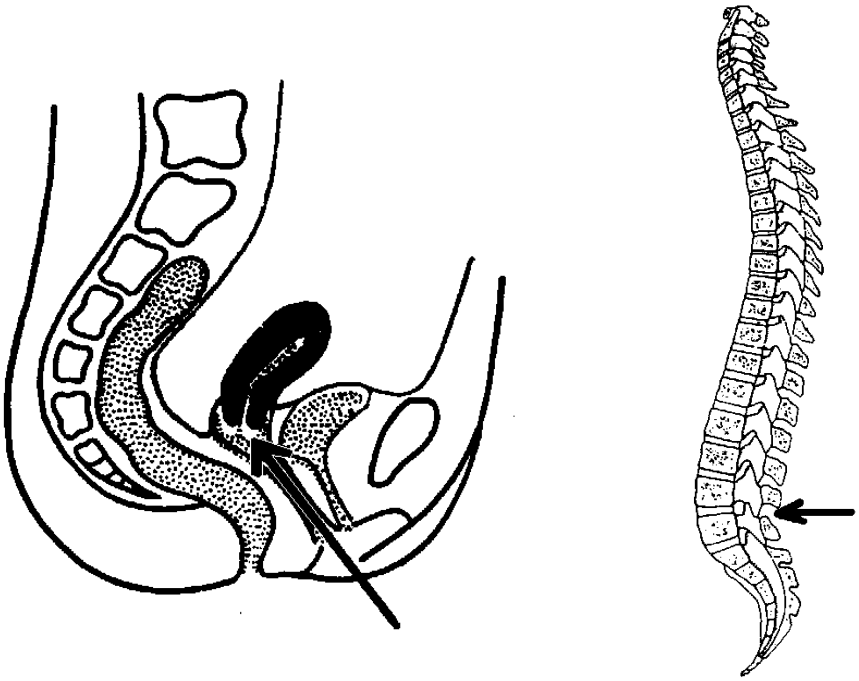
Recommended density (J/cm^2)	3.0 (2.2 – 5.0)
Recommended frequency (Hz)	5.0 (5.0 – 9.0)
Therapy time at max. output (in min.)	2.05
Number of treatments per week	daily – every other day
Number of treatments total	10
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

Comment:

- At acute inflammation in the initial stage irradiate place of erythema.
- At chronic inflammation irradiate Bartholini`s gland duct.
- Laser therapy has anti-inflammation, analgesic and anti-edematous effects.

Diagnosis: **Algomenorrhoea**

Programme No: 0501



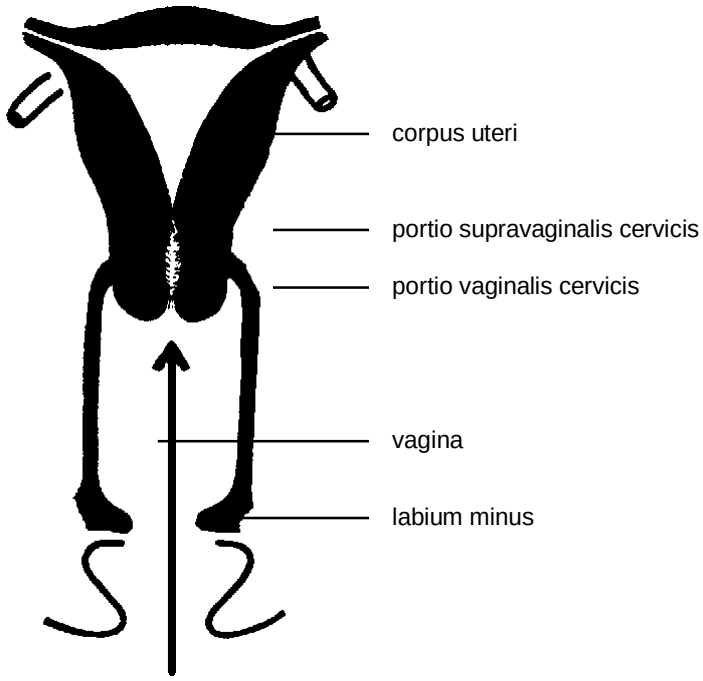
Recommended density (J/cm^2)	2.0 (1.4 – 2.4)
Recommended frequency (Hz)	(9.12) 5.0 – 9.0
Therapy time at max. output (in min.)	1.23
Number of treatments per week	1 – 3
Number of treatments total	10
Recommended BTL probe	red / infrared
Recommended output of BTL probe	30 mW / 200 mW

Comment:

- Start irradiating one week before menstruation.
- Irradiate by using gynecological specula with special gynecological optical attachment.
- Irradiate area of parametrium and uterosacral ligaments, sacrum fossa or trigger points.
- **dysmenorrhei** – irradiate 1 - 3 times daily and repeat in 2 - 3 menstrual cycles.

Diagnosis: Cervicitis acuta, chronica

Programme No: 0502, 0503



Recommended density (J/cm^2) - acuta - chronica	 2.5 (1.8 – 3.3) 2.0 (1.3 – 3.0)
Recommended frequency (Hz) - acuta - chronica	 3.0 9.12
Therapy time at max. output (in min.)	1.44 (acuta), 1.23 (chronica)
Number of treatments per week - acuta - chronica	 daily every other day
Number of treatments total - acuta - chronica	 2 – 5 6 – 12
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

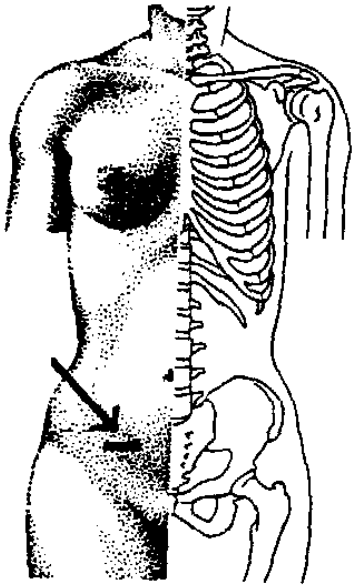
Comment:

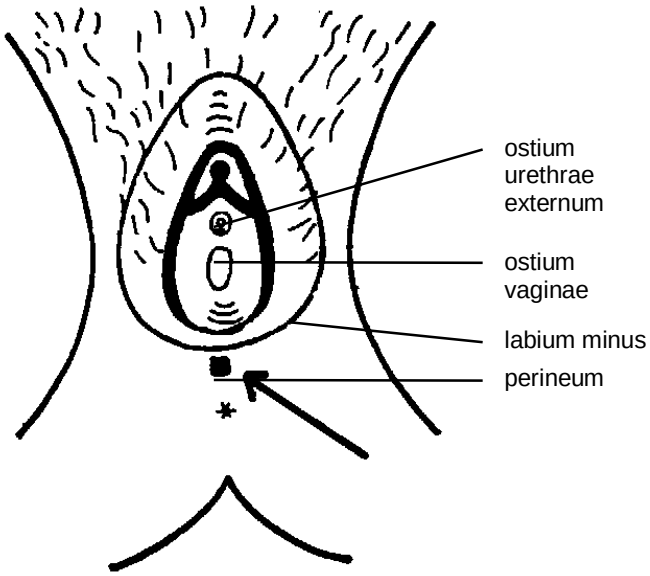
- Irradiate with special gynecological optical attachment.
- Irradiate directly cervix.
- Laser therapy has direct affect /influence/ in area difficulty affected.

Diagnosis: **Cicatrix cheloidum**

(keloid scar)

Programme No: 0504





Recommended density (J/cm^2)	3.0 (2.0 – 6.0)
Recommended frequency (Hz)	5.0 (9.12)
Therapy time at max. output (in min.)	2.05
Number of treatments per week	2 – 3
Number of treatments total	10 – 15 (40)
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

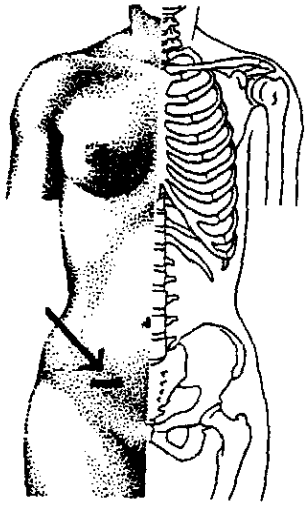
Comment:

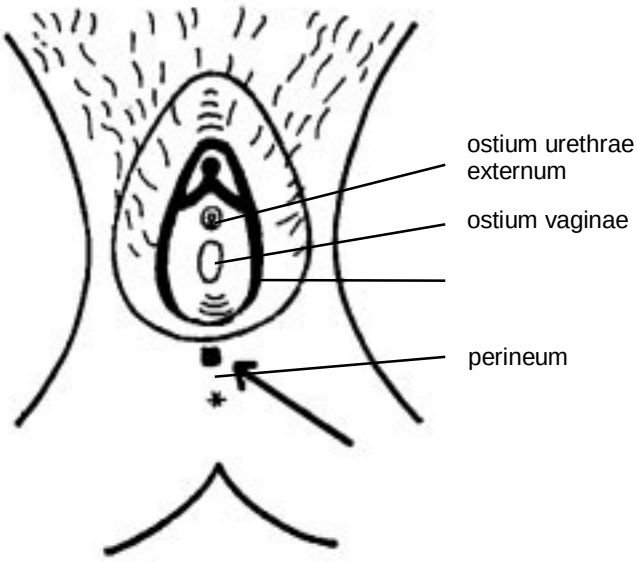
- Irradiate the whole scar.
- It is recommended to change frequencies.
- Nociceptive activity of keloid scars decreases.
- Irradiate in combination with surgical treatment.
- As a preventive treatment, irradiate persons with keloid forming tendencies.
- The older the scar, the longer the treatment.
- Irradiation decreases coloration of older scars with stronger pathological coloration, and flattens the scar.

Diagnosis: Cicatrix recens

(fresh scar)

Programme No: 0505, 0506





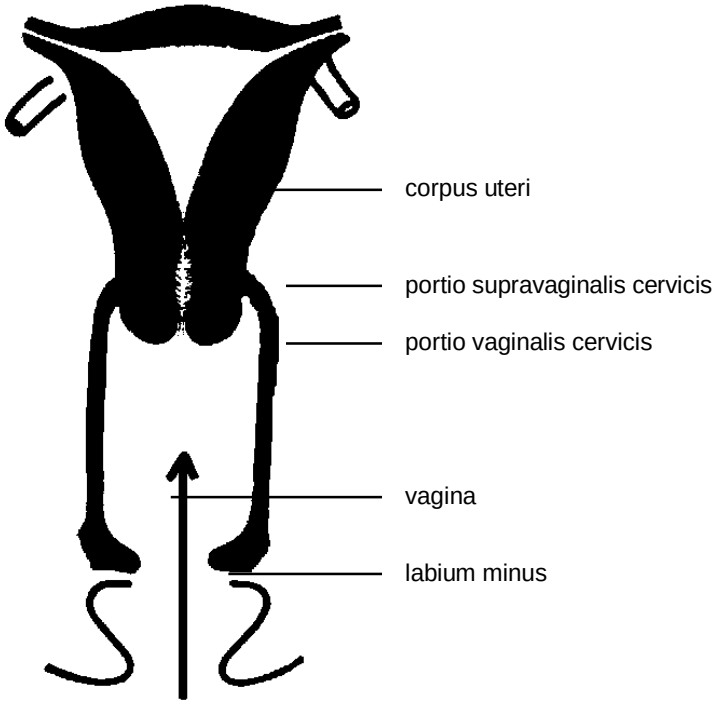
Recommended density (J/cm^2)	2.0 (1.0 – 5.0) 1st part of therapy 3.0 2nd part of therapy
Recommended frequency (Hz)	cont. . 1st part of therapy 4.7 (5.0) 2nd part of therapy
Therapy time at max. output (in min.)	1.06 + 2.05
Number of treatments per week	daily - 3x per week
Number of treatments total	5 – 15
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

Comment:

- Irradiate the whole scar.
- Begin irradiation immediately after surgery.
- Acute cases: set a lower dose and irradiate more frequently.
- Chronic cases: set a higher dose and irradiate less frequently.
- Good laser therapy results can be achieved with burns, ulcers and keloid scars.
- According to some experts, it is advisable to irradiate the area 2-3 days prior to surgery, or during the surgery itself.
- Improved oxidation in the cells effects microcirculation in the affected tissue, and improves cellular energy use and waste drainage.
- Laser treatment has an analgesic effect, and also reduces infiltration, swelling and haematoma.
- 1st part of therapy and 2nd part of therapy should be understood as two parts of one therapy session.

Diagnosis: Colpitis acuta, chronica

Programme No: 0507, 0508



Recommended density (J/cm^2)	1.0 (0.2 – 2.0)
Recommended frequency (Hz) - acuta - 1st day - following days - chronica	 cont. 5.0 (5.0 – 10.0) 9.12
Therapy time at max. output (in min.)	0.41
Number of treatments per week	daily
Number of treatments total	3 - 8
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

Comment:

- Irradiate by maximum dilatation of gynecological specula first in horizontal and second in vertical position.

Diagnosis: **Conisatio colli uteri**
(conization)

Programme No: 0509

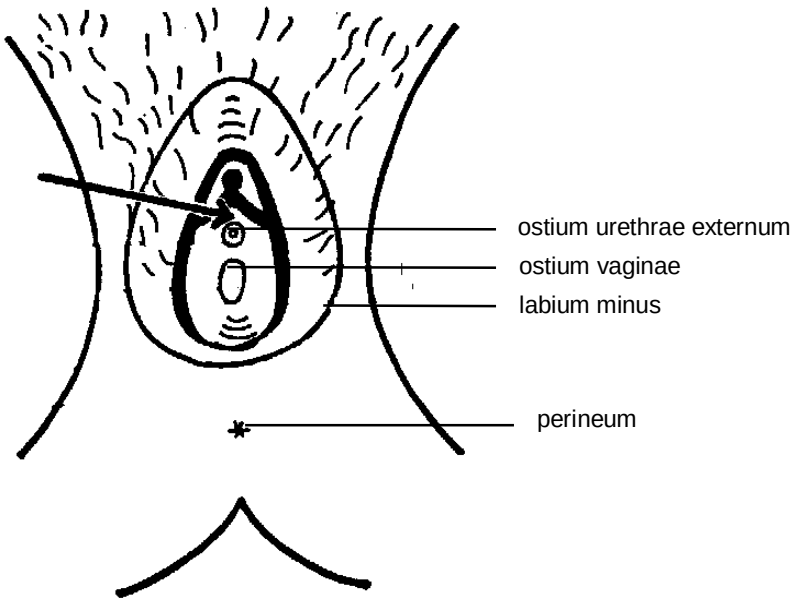
Recommended density (J/cm^2)	1.0
Recommended frequency (Hz)	10.0 (5.0 – 10.0)
Therapy time at max. output (in min.)	0.41
Number of treatments per week	2
Number of treatments total	1 - 5
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

Comment:

- Malignity must be excluded prior to irradiation.
- One session after conization, other irradiation in the course of healing process.
- Laser therapy decreases exudation during post-operative days, and fastens healing effects.

Diagnosis: Cystitis

Programme No: 0510



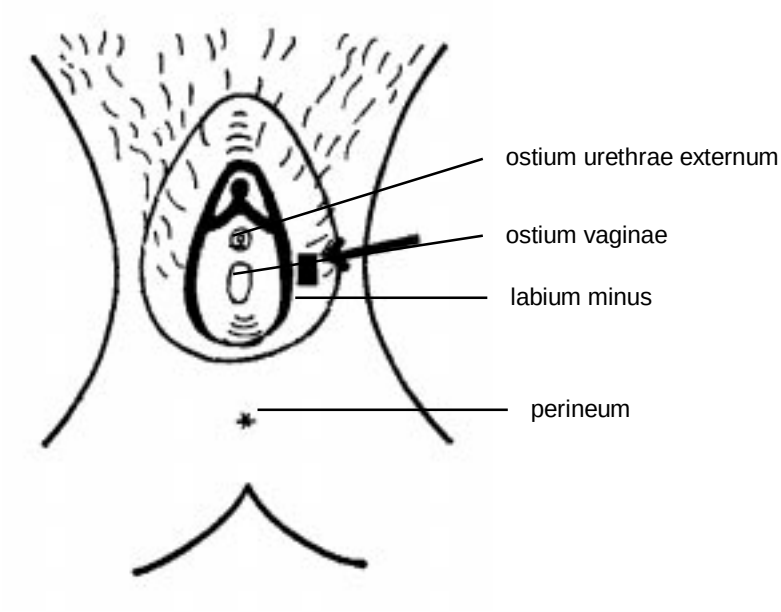
Recommended density (J/cm^2)	1.0 (1.0 – 2.0)
Recommended frequency (Hz)	3.5 (3.5 – 5.0)
Therapy time at max. output (in min.)	0.41
Number of treatments per week	3
Number of treatments total	5
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

Comment:

- Irradiate front part of vagina in point trigon Pawliki.
- Less common application.

Diagnosis: Dystrophia vulvae

Programme No: 0511, 0512



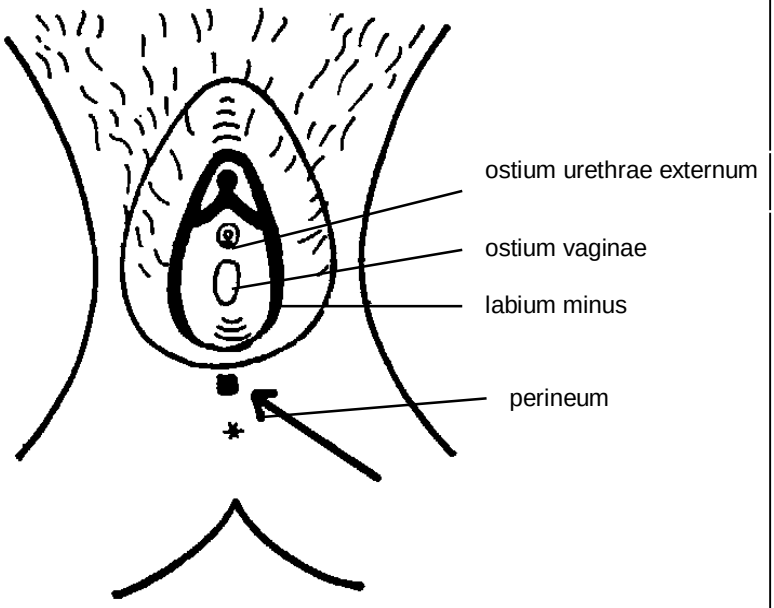
Recommended density (J/cm^2)	1.0 (1.0 – 2.0)
Recommended frequency (Hz)	cont. 1st part of therapy 5.0 (5.0 – 9.0) 2nd part of therapy
Therapy time at max. output (in min.)	0.33 + 0.41
Number of treatments per week	1st week daily, then 2-3 per week
Number of treatments total	5 – 15
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

Comment:

- directly irradiate the affected area.
- Laser therapy has analgesic, stimulating and anti-pruritic effect.
- 1st part of therapy and 2nd part of therapy should be understood as two parts of one therapy session.

Diagnosis: **Haematoma**

Programme No: 0513



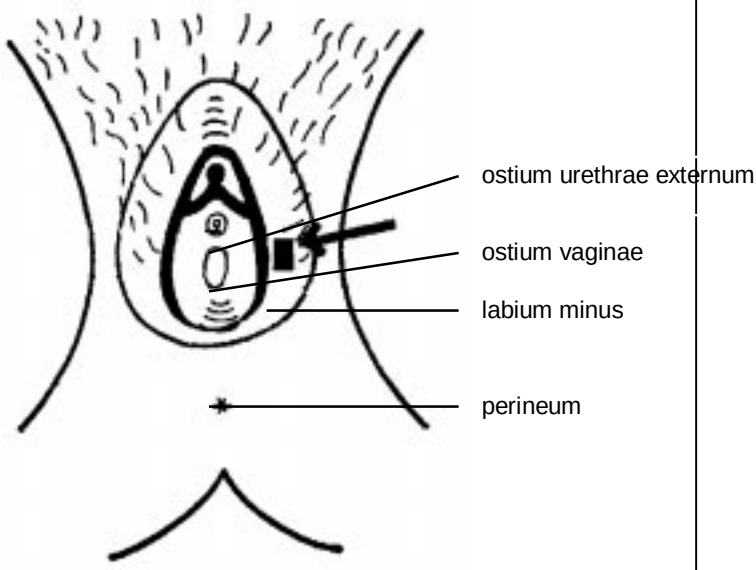
Recommended density (J/cm^2)	1.0 (1.0 – 2.0)
Recommended frequency (Hz)	6.0 (8.0)
Therapy time at max. output (in min.)	0.41
Number of treatments per week	daily
Number of treatments total	3 – 7
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

Comment:

- Suture haematoma: apply frequency 5-10 Hz; density 0.9-1 J/cm^2 (if very painful, 1-4 J/cm^2).
  Irradiate around the suture.
- Laser therapy has analgesic and anti-edematous effect.
- Increases absorption of haematoma.

Diagnosis: Herpes genitalis

Programme No: 0514, 0515



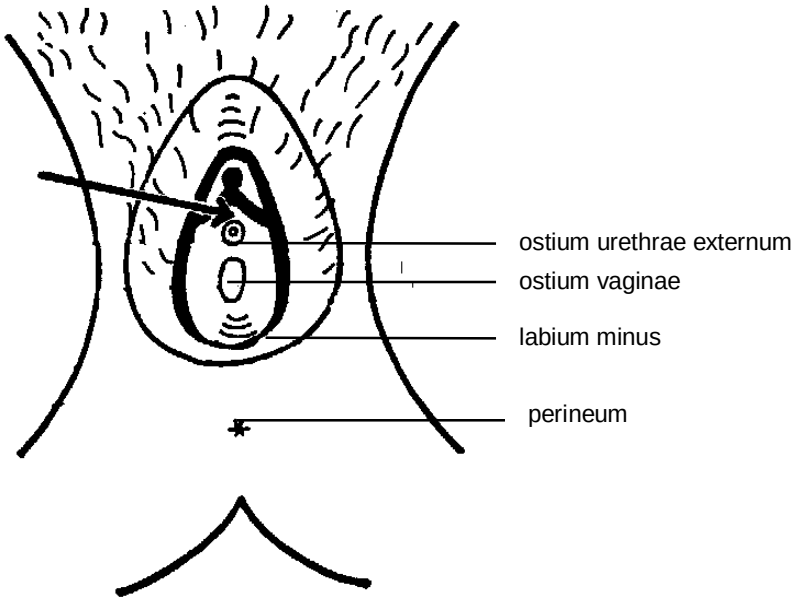
Recommended density (J/cm^2)	2.0 (1.0 – 3.0) 1st part of therapy 3.0 2nd part of therapy
Recommended frequency (Hz)	cont. 1st part of therapy 4.7 (9.12, 5.0) 2nd part of therapy
Therapy time at max. output (in min.)	1.06 + 2.05
Number of treatments per week	1st day 1-2x, then daily
Number of treatments total	3 – 6
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

Comment:

- Irradiate at the first signs of tension in the tissue.
- Results are better when started in the early stages of the condition.
- Irradiate at the edges of the lesion.
- Doses of sufficient strength must be given because herpes can worsen if only a stimulatory dose is given.
- During the therapy session, irradiate first with continuous mode and then with pulse frequency.
- Irradiation reduces pain.
- Normal healing takes 8-12 days, but only 2-4 days with laser therapy.
- Reduces recurrence of the condition.
- Prevents the forming of blisters.
- Has a healing, analgesic, and anti-edema effect.
- In pregnancy recommend laser therapy because of contraindication of treatment with chemical drugs /acyclovir/.
- 1st part of therapy and 2nd part of therapy should be understood as two parts of one therapy session.

Diagnosis: Incontinentia urinae

Programme No: 0516



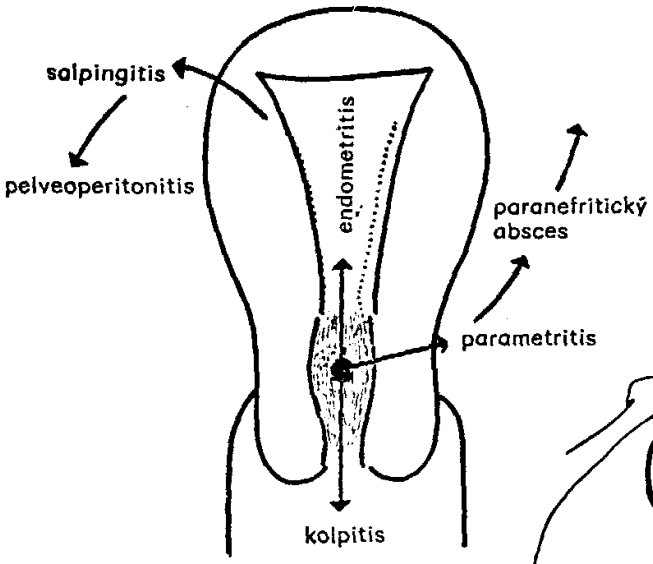
Recommended density (J/cm^2)	1.0 (0.5 – 1.0)
Recommended frequency (Hz)	9.4 (5.0 – 10.0)
Therapy time at max. output (in min.)	0.41
Number of treatments per week	daily – every other day
Number of treatments total	6 - 10
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

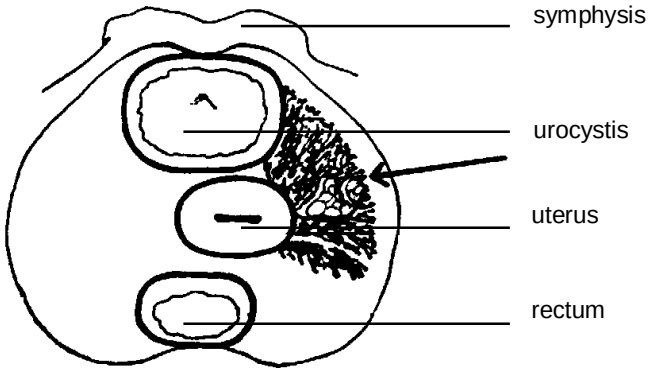
Comment:

- Irradiate direct suture of surgical field, irradiate vagina in area of trigon urinary bladder.
- Density and frequency is depending on function of urinary bladder.
- Apply daily or each second day depending on reaction of the patient.

Diagnosis: **Parametritis**

Programme No: 0517





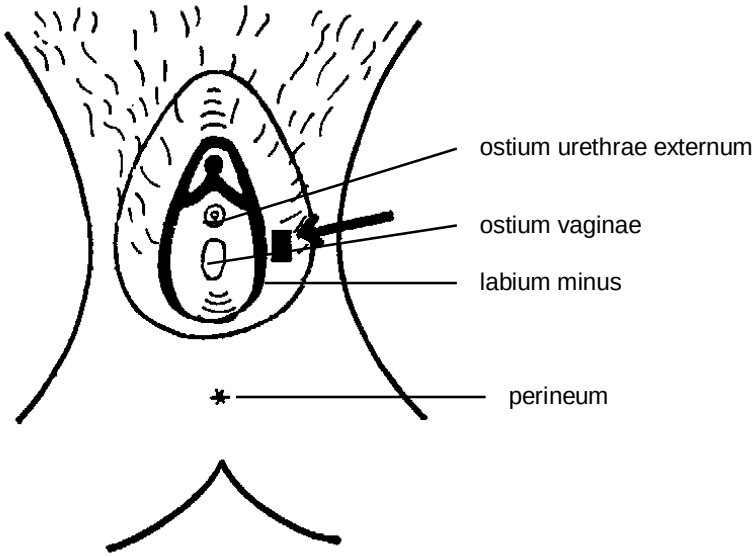
Recommended density (J/cm^2)	2.0 (1.5 – 2.5)
Recommended frequency (Hz)	5.5
Therapy time at max. output (in min.)	1.23
Number of treatments per week	daily – every other day
Number of treatments total	10
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

Comment:

- Inflammation around uterus and vagina has origin in infection in cervix.
- Laser therapy has anti-inflammation and analgesic effect.
- More suitable for chronic, rather than acute processes.

Diagnosis: **Pruritus**

Programme No: 0518



Recommended density (J/cm^2)	1.0 (1.0 – 2.0)
Recommended frequency (Hz)	5.0 (5.0 – 9.0)
Therapy time at max. output (in min.)	0.41
Number of treatments per week	1st week every day, than 2-3 per week
Number of treatments total	3 – 10
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

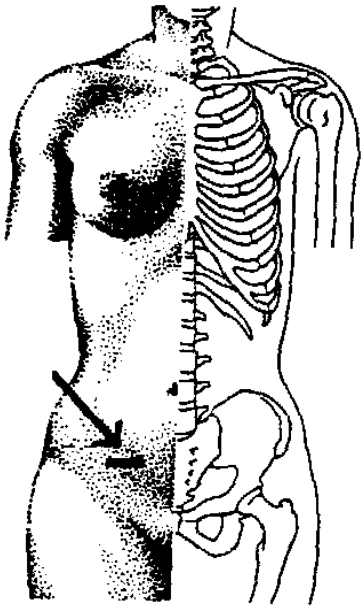
Comment:

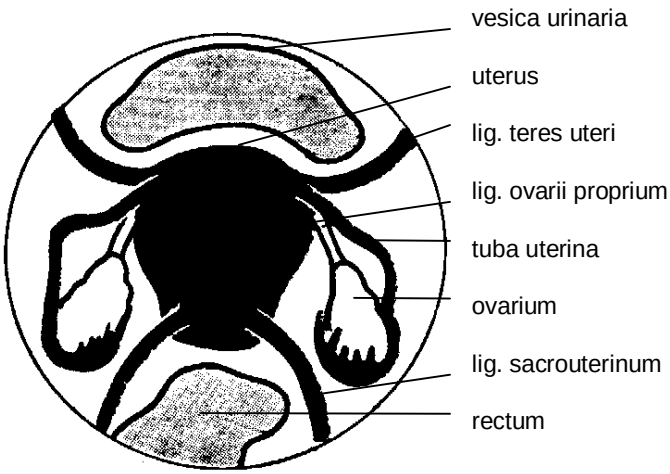
- Irradiate all area from 1 cm distance from surface skin.
- Laser therapy helps to eliminate discomfort of the patient.
- Laser therapy has analgesic, stimulation and anti-pruritis effect.

Diagnosis: Sanatio postoperativa

(post-surgical healing)

Programme No: 0519





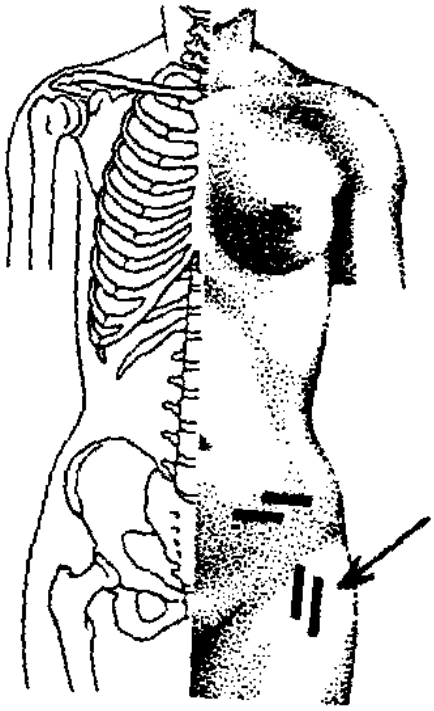
Recommended density (J/cm^2)	1.0 (0.6 – 2.0)
Recommended frequency (Hz)	5.0 (5.0 – 10.0)
Therapy time at max. output (in min.)	0.41
Number of treatments per week	daily
Number of treatments total	4 – 10
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

Comment:

- Irradiate immediately after the operation or first day after.
- Irradiate around the edges of the ulcer.
- Accelerates healing of wounds.
- Irradiate tissue immediately before laparotomy suture.
- The scar is soft and elastic.

Diagnosis: **Striae**

Programme No: 0520



Recommended density (J/cm^2)	0.8 (0.5 – 2.0)
Recommended frequency (Hz)	8.4 (5.2)
Therapy time at max. output (in min.)	0.35
Number of treatments per week	2 – 3
Number of treatments total	20 – 30
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

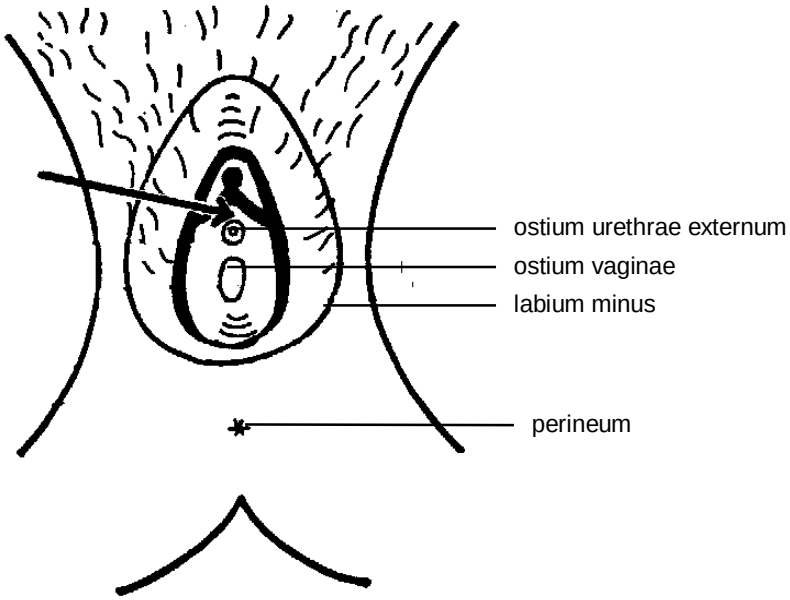
Comment:

- Results are better when started in the early stages of the condition.
- The older stria, the longer treatment – 100 sessions possible.

Diagnosis: Urocystis - irritabilis

(urinary bladder – irritative)

Programme No: 0521



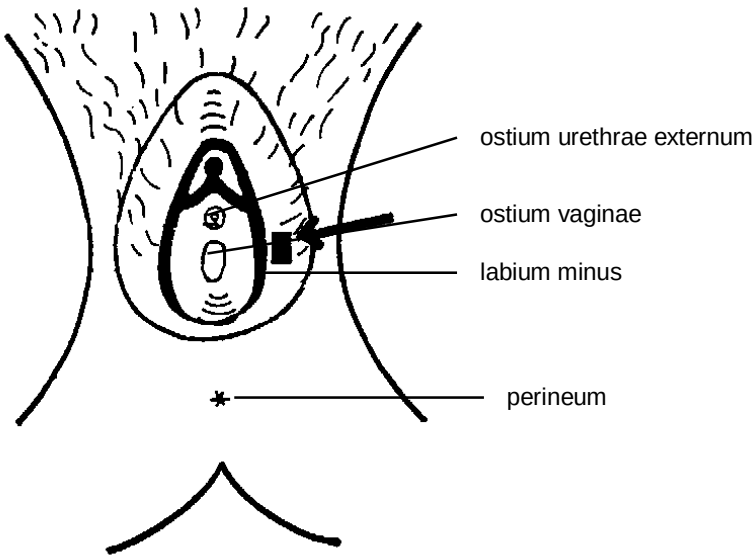
Recommended density (J/cm^2)	1.0 (0.5 – 1.0)
Recommended frequency (Hz)	9.4
Therapy time at max. output (in min.)	0.41
Number of treatments per week	daily – every other day
Number of treatments total	6 – 12
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

Comment:

- Irradiate front part of vagina with density 0.5 – 0.7 J/cm^2. Combine with point irradiation of sacrum fossa with density 0.1 J/cm^2.
- Should no considerable improvement occur within 10 sessions, it is recommended discontinue the laser therapy.

Diagnosis: Vulvitis

Programme No: 0522



Recommended density (J/cm^2)	1.0 (0.5 – 2.0)
Recommended frequency (Hz)	5.0
Therapy time at max. output (in min.)	0.41
Number of treatments per week	daily – 2 - 3x per week
Number of treatments total	3 - 6
Recommended BTL probe	red
Recommended output of BTL probe	30 mW

Comment:

- Irradiate affected area directly or in cavity.
- Apply the therapy before and after opening cavity, possibly also after drainage of pyogenic focus.
- 1st day apply 1 - 2 sessions, next days 2 - 3 sessions per week.